

ABSTRACT OF THE DISCLOSURE

A chromatic dispersion compensator comprises a beam delay element, such as one or more Gires-Tournois etalon (GTEs); a beam director, such as a polarizing beam splitter (PBS), a prism polarizer, a dielectric polarizer or a crystal polarizer; and a polarization changer, such as one or more quarter-wave plates. The beam director directs an inbound optical beam based on its polarization toward the beam delay element whereat a first unit of group delay is induced. The optical beam traverses the beam delay element and enters a polarization changer whereat the optical beam obtains a new polarization. The optical beam traverses the polarization changer and re-enters the beam director whereupon a path change is induced on the optical beam based on its new polarization and the optical beam is redirected toward the beam delay element whereat a second unit of group delay is induced. The compensator is arranged to advantageously perform the referenced technique contemporaneously on two constituent optical beams (having different polarizations) of an inbound optical beam and eventually re-combine the two constituent optical beams into an outbound optical beam. The beam delay element may include one or more GTEs. Inducement of path changes and direction of the optical beam to the beam delay element may be assisted by one or more ninety degree mirrors. The referenced technique may be performed on an optical beam more than twice, such that a third, fourth, fifth, etc. delay is induced on the optical beam.